

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A dishwasher, comprising:
 - a washing chamber;
 - top and bottom nozzles that supply washing fluid to the washing chamber;
 - a sump provided under the washing chamber that receives washing fluid;
 - a pump that pumps washing fluid from the sump;
 - a supply pipe in fluid communication with the pump, wherein washing fluid pumped by the pump flows into the supply pipe;
 - upper and lower pipes coupled to the supply pipe, wherein the upper and lower pipes lead washing fluid from the supply pipe to the top and bottom nozzles, respectively;
 - a valve rotatably installed at a connecting portion between the supply pipe and the upper and lower pipes, wherein the valve selectively opens/closes the supply pipe and the upper and lower pipes; and
 - a driver coupled to the valve, wherein the driver determines a first position of the valve and causes the valve to rotate to a second position based on the determined first position
the driver comprising:
 - a motor that rotates a rotational shaft coupled to the valve;

a cam coupled to the rotational shaft, wherein the cam rotates together with the valve, the cam having a plurality of sections differing in radius from each other; and

a sensor that contacts an outer circumference of the cam so as to control an operation of the motor, wherein the driver causes the valve to rotate based on a contact location between the sensor and the outer circumference of the cam.

2. (Previously Presented) The dishwasher as claimed in claim 1, wherein the valve has a semi-cylindrical shape such that the valve is rotatably installed between the supply pipe and the upper and lower pipes.

3. (Cancelled)

4. (Currently Amended) The dishwasher as claimed in claim 31, wherein the motor is a step motor that adjusts a rotational angle thereof based on a required position of the valve.

5. (Currently Amended) The dishwasher as claimed in claim 31, wherein the cam comprises a first cam section having a first radius and a second cam section having a second radius smaller than the first radius.

6. (Currently Amended) The dishwasher as claimed in claim 31, the sensor

comprising:

a button that is compressed or restored based on a position of the cam relative to the button; and

a switch that is turned on or shut off to control the motor based on a compression or restoration of the button.

7. (Currently Amended) The dishwasher as claimed in claim 6, wherein the cam comprises a first cam section having a first radius configured to compress the button and a second cam section having a second radius smaller than the first radius configured to restore the compressed button.

8. (Previously Presented) The dishwasher as claimed in claim 6, wherein the switch cuts off power to the motor after a predetermined time has elapsed after the switch is switched on or off.

9. (Previously Presented) The dishwasher as claimed in claim 6, the sensor further comprising a lever provided between the cam and the button, wherein the lever contacts the outer circumference of the cam and compresses or restores the button based on a portion of the outer circumference of the cam which is contacted by the lever.

Reply to Office Action of December 26, 2007

10. (Currently Amended) The dishwasher as claimed in claim 9, wherein the cam comprises a first cam section having a first radius configured to compress the button and a second cam section having a second radius smaller than the first radius configured to restore the compressed button.

11. (Previously Presented) The dishwasher as claimed in claim 9, wherein the switch cuts off power to the motor after a predetermined time has elapsed after the switch is switched on or off.

12. (Previously Presented) The dishwasher as claimed in claim 1, wherein the valve blocks the lower pipe and allows washing fluid to flow from the supply pipe to the upper pipe in the first position, and wherein the valve blocks the supply pipe to restrict the flow of washing fluid to the upper and lower pipes in the second position.

13. (Previously Presented) The dishwasher as claimed in claim 12, wherein the valve blocks the upper pipe and allows washing fluid to flow from the supply pipe to the lower pipe in a third position, and wherein the valve allows water to flow from the supply pipe to both the upper and lower pipes in a fourth position.

14. (Previously Presented) A dishwasher, comprising:

a washing chamber;

upper and lower nozzles that supply washing fluid to the washing chamber;

a supply pipe that receives washing fluid from a pump;

upper and lower pipes that extend between the supply pipe and the upper and lower nozzles, respectively, so as to direct washing fluid to the upper and lower nozzles;

a valve provided between the supply pipe and the upper and lower pipes, wherein the valve rotates through a plurality of positions so as to selectively open and close the supply pipe, the upper pipe and the lower pipe;

a sensor that contacts a cam coupled to the valve and that determines a current position of the valve based on its contact with the cam; and

a motor that turns the valve to a new position based on the current position sensed by the sensor.

15. (Previously Presented) The dishwasher as claimed in claim 14, wherein the cam that rotates with the valve, wherein a first portion of the cam has a first radius, and a second portion of the cam has a second radius that is less than the first radius.

16. (Previously Presented) The dishwasher as claimed in claim 15, wherein the sensor comprises:

a switch coupled to the motor;

a button provided on the switch; and
a lever positioned between the cam and the button.

17. (Previously Presented) The dishwasher as claimed in claim 16, wherein an end of the lever contacts an outer circumferential surface of the cam as the cam rotates with the valve, wherein the lever compresses the button when the lever contacts the outer circumferential surface of the first portion of the cam, and the lever releases the button when the lever contacts the outer circumferential surface of the second portion of the cam.

18. (Previously Presented) The dishwasher as claimed in claim 17, wherein the switch is actuated and the sensor senses a current position of the valve when the button is compressed by the lever, and wherein the switch is de-actuated and the sensor senses a current position of the valve when the button is released by the lever.

19. (Previously Presented) The dishwasher as claimed in claim 18, wherein the sensor cuts off power to the motor after a predetermined amount of time has elapsed after the switch is actuated or de-actuated such that the valve can be stopped in desired positions.

20. (Previously Presented) The dishwasher as claimed in claim 19, wherein the plurality of positions comprises:

at least one first position at which the switch is actuated or de-actuated; and
at least one second position, wherein the at least one second position is at a rotational position that is a predetermined number of degrees after the switch is actuated or de-actuated at the at least one first position.

21. (Previously Presented) A dishwasher, comprising:

top and bottom nozzles that supply washing fluid to a washing chamber;
upper and lower pipes that receive washing fluid from a supply pipe and supply washing fluid to the top and bottom nozzles, respectively;
a valve rotatably installed at a connecting portion between the supply pipe and the upper and lower pipes; and

a driver that determines a first position of the valve and turns the valve to a second position based on the determined first position, the driver comprising:

a motor that rotates a shaft coupled to the valve;
a cam having a varying radius and coupled to the shaft so as to rotate with the valve; and

a sensor that controls operation of the motor, the sensor comprising:
a button that is compressed or restored based on a position of the cam relative to the button;
a switch that is controlled based on a position of the button; and

Serial No. **10/721,176**

Reply to Office Action of **December 26, 2007**

Docket No. **K-0577**

a lever provided between the cam and the button, wherein the lever contacts an outer circumference of the cam and compresses or restores the button based on a portion of the outer circumference of the cam that is contacted by the lever.